From: <u>Jones, Katrina</u>
To: <u>R4 SEMS Records</u>

Subject: FW: Westside Lead Staging Area Sampling Report

Date: Monday, January 27, 2020 4:03:04 PM

Attachments: Westside Lead Staging Area Sampling Report Rev0.pdf

From: Greg Kowalski < GKowalski@otie.com>
Sent: Monday, November 18, 2019 10:49 AM
To: Berry, Chuck < Berry.Chuck@epa.gov>
Cc: Jones, Katrina < Jones.Katrina@epa.gov>

Subject: Westside Lead Staging Area Sampling Report

Chuck,

Attached is the full report with figure, table and photolog all in a single file. Since there were no significant edits, I'm keeping it as Rev. 0.

Please let me know if there is anything else needed in regards to the Staging Area. We plan to resume residential sampling on Wed as we expect to get the XRF back from Brian Thurs morning.

Thank you,

Greg Kowalski, CHMM
Program Manager
EPA Reg 4 START Contract
Oncida Total Integrated Enterprises (OTIE)
1220 Kennestone Circle, Suite 106
Marietta, Georgia 30066
678-355-5550 Ext 5704
www.otie.com
Engineering, Science and Construction

From: Berry, Chuck [mailto:Berry.Chuck@epa.gov]
Sent: Monday, November 18, 2019 10:30 AM

To: Greg Kowalski

Subject: RE: Staging Area Sampling Rreport

Ah. Missed that on Y. I'm good. It's in there. Change the syntax.

Concrete debris encountered at the 'Y' location limited the depth at this location to only two feet bgs; and thus, no samples were collect below two feet at this location.

Excellent.

Chuck Berry - Federal On-Scene Coordinator

U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303

Superfund and Emergency Management Division

Emergency Response, Removal, Prevention and Preparedness Branch (ERRPPB)

office: 404-562-8278 | cell: 404-859-0970 | response.epa.gov

From: Greg Kowalski < <u>GKowalski@otie.com</u>>
Sent: Monday, November 18, 2019 9:17 AM
To: Berry, Chuck < <u>Berry.Chuck@epa.gov</u>>
Subject: RE: Staging Area Sampling Rreport

Will do... I'll have back to you within the hour.

Note in regards to your second comment: there is such a statement at the bottom of page 2 (in Sec 3.0).

Concrete debris encountered at the 'Y' location limited the depth at this location to only two feet bgs, and thus no samples were collect below two feet at this location.

That said, do you still want me to add it there in Sec 4.0? Perhaps something like:

Due to the presence of concrete debris encountered at the 2-fopot depth, samples could not be obtained from greater depths at this location.

Greg Kowalski

From: Berry, Chuck [mailto:Berry.Chuck@epa.gov]

Sent: Sunday, November 17, 2019 9:35 PM

To: Greg Kowalski

Subject: Re: Staging Area Sampling Rreport

Great report.

1. P3, Sec 4.0. "patters"

2. P3, sec 4.0. Add one sentence stating we hit either bedrock or large boulders at location y.

Thanks. I'll seT up a meeting with the property owner ASAP.

Chuck Berry Federal On-Scene Coordinator EPA Region 4 404.562.8277

On Nov 15, 2019, at 16:58, Greg Kowalski < GKowalski@otie.com> wrote:

Chuck,

Attached is the Westside Lead Staging Area Sampling Investigation Report that includes the figure and table.

I'm also sending in Word format so you can tweak wording as needed.

The Photolog will follow in a separate email due to its size.

Let me know of any edits/revisions and we will turn those around expeditiously.

Sincerely,

Greg Kowalski, CHMM

Program Manager
EPA Reg 4 START Contract
Oneida Total Integrated Enterprises (OTIE)
1220 Kennestone Circle, Suite 106
Marietta, Georgia 30066
678-355-5550 Ext 5704
www.otie.com

Engineering, Science and Construction

<Westside Staging Area Sampling Report_Rev0.pdf>
<Westside Staging Area Sampling Report_Rev0.doc>



November 15, 2019

Mr. Chuck Berry On-Scene Coordinator U.S. Environmental Protection Agency 61 Forsyth Street, SW 11th Floor Atlanta, Georgia 30303

Subject: Westside Lead – Vine Street Staging Area, Revision 0

441 Vine Street

Atlanta, Fulton County, Georgia EPA Contract No. EP-S4-15-01

Technical Direction Document (TDD) No. OT-02-010

Dear Mr. Berry:

Oneida Total Integrated Enterprises (OTIE) Superfund Technical Assessment and Response Team (START) has prepared this report summarizing the field sampling activities conducted at the Westside Lead Site Staging Area located 441, 435, and 431 Vine Street in Atlanta, Fulton County, Georgia, on behalf of the U.S. Environmental Protection Agency (EPA).

Please contact me at (678) 355-5550 ext. 5704 if you have any questions or comments regarding this report.

Sincerely,

Greg Kowalski

OTIE START Program Manager

Enclosure

cc: Katrina Jones, EPA Project Officer

START File

WESTSIDE LEAD VINE STREET STAGING AREA SAMPLING INVESTIGATION

441 VINE STREET ATLANTA FULTON COUNTY, GEORGIA

Revision 0

Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY
Region 4
61 Forsyth Street
Atlanta, Georgia 30303

Prepared by:

Oneida Total Integrated Enterprises Superfund Technical Assessment and Response Team 1220 Kennestone Circle, Suite 106 Marietta, Georgia 30066

Contract No. : EP-S4-15-01
TDD Number : OT-02-010

Date Submitted : November 15, 2019

EPA OSC : Chuck Berry
Telephone No. : 404-562-8277
Prepared by : Greg Kowalski

Telephone No. : 678-355-5550 ext. 5704

1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) tasked the Oneida Total Integrated Enterprises (OTIE) Superfund Technical Assessment and Response Team (START) to provide an assessment of lead contaminant concentrations at the anticipated future soil staging area for the Westside Lead site located on Vine Street in Atlanta, Fulton County, Georgia. The site activities were conducted under Contract Number (No.) EP-S4-15-01, Technical Direction Document (TDD) No. OT-02-010. The purpose of the field activities was to determine if the historical placement of industrial slag and/or incinerator ash here has resulted in soil lead concentrations above guidance concentrations, and if that contamination is present in subsurface soils down to eight feet in depth.

Under this effort, START was tasked to:

- Procure a vendor to clear the overgrown vegetation from the area
- Procure a vendor to provide a Direct-Push Technology (DPT) rig to sample down to eight feet
- Procure a vendor to provide a trackhoe to excavate trenches down to eight feet
- Conduct soil sampling via hand auger, from DPT borings, and from the excavator bucket
- Analyze samples with an X-Ray Fluorescence (XRF) instrument to determine lead concentrations
- Document activities with written logbook notes and digital photographs
- Prepare a brief report summarizing the site conditions, field sampling activities, and XRF screening results of the investigation.

This report provides a brief site background, describes the existing conditions at the site, the field investigation activities conducted by START, and the field screening results. A figure illustrating the site, a table summarizing results, and a photographic log are provided following the text of the report.

2.0 SITE DESCRIPTION AND BACKGROUND

The site consists of three parcels totaling approximately 0.98 acres located at 441, 435, and 431 Vine St. NW, Atlanta, Fulton County, Georgia (see Figure 1). The geographic coordinates at the center point of the site are 33.76645549° North latitude and -84.40726435° West longitude. The site currently exists as vacant lots. The elevation of the eastern half of the parcel is approximately 6-8 feet higher than the western portion. The site is situated within a residential neighborhood, with residential properties directly to the west, a warehouse that operates auto repair to the north, and vacant lots to the east and the south that increase dramatically in elevation by approximately 20 feet.

Based on a review of historical imagery, three apartment buildings were previously located on the western portion of the site, dating back to at least 1955. These buildings were razed and removed from the site in late 2007/early 2008. The concrete foundations are still in place located approximately six inches below the surface, and were encountered during the trenching activities. The property was densely covered in vegetation/kudzu, which greatly limited access over the years. Prior to trenching and sampling activities, the vegetation was cleared via bush-hogging on September 11, 2019.

The primary goal of sampling was to determine if the historical placement of industrial slag and/or incinerator ash here has resulted in soil lead concentrations above guidance concentrations, and if that contamination exists in subsurface soils down to eight feet in depth.

3.0 FIELD SAMPLING ACTIVITIES

In mid-September 2019 after the vegetation was cleared from the site, START sampled the Staging Area using a Geoprobe DPT rig and via hand auger to gain a preliminary understanding of the depth and extent of contamination on site. Due to the gravel/rock-like physical characteristics present across the majority of the site, the attempts to advance and collect soil beyond a two-foot depth were unsuccessful, and a different means to access the subsurface was necessary. XRF results of these 0 - 2 foot samples identified lead contamination up to 2,405 parts per million (ppm).

On November 1, 2019, a START subcontracted trackhoe and equipment operator were utilized to collect subsurface soil samples down to a depth of eight feet below ground surface (bgs) at nine different locations on the property as selected by the EPA On-Scene Coordinator (OSC) in coordination with Georgia Department of Environmental Protection personnel (see Figure 1). START collected the surface soil samples at these nine locations separately on November 6, 2019.

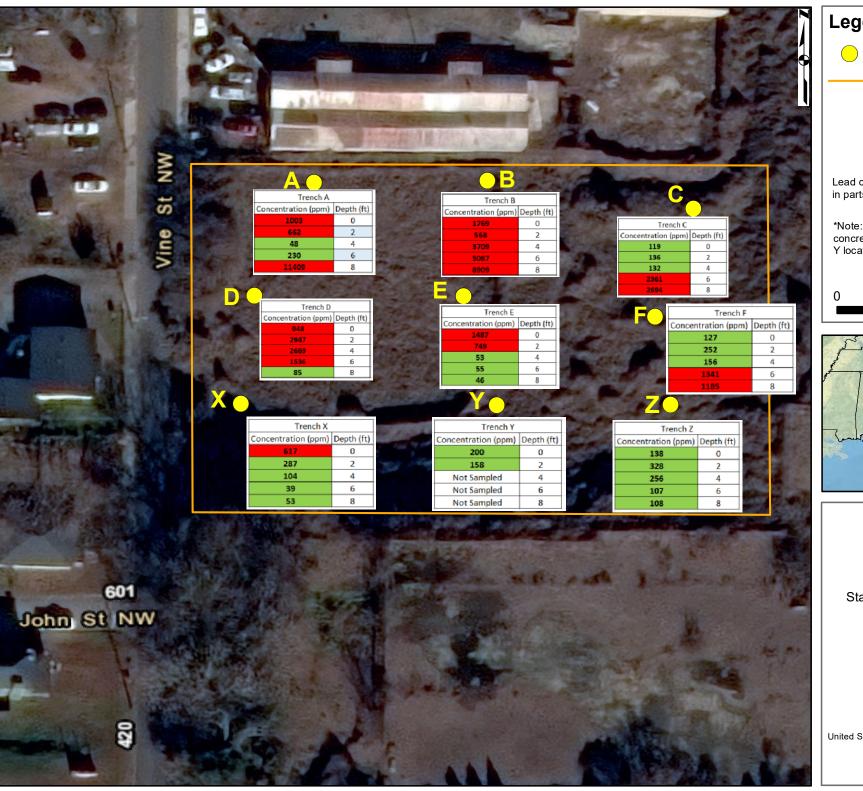
A total of 42 soil samples were collected from the nine locations within the site. For every two feet dug with the excavator, a sample was acquired directly from the excavator bucket with a new, clean stainless-steel spoon collected into a disposable aluminum pan. The pans were labeled and covered for transport to the OTIE office for subsequent XRF screening. Each sampling location was assigned a corresponding letter (A-F and X-Z) followed by a numerical value in reference to the depth the sample was collected (i.e. A0, C2, X4, Etc.). A sewer line running below the northwest corner of the property forced an offset of the 'A' location to the east. Concrete debris encountered at the 'Y' location limited the depth at this location to only two feet bgs; thus, no samples were collected below two feet at this location.

After collection of samples from the site, samples were transported to the OTIE office, then weighed and dried in accordance with the Region 4 EPA Superfund XRF Field Operations Guide (FOG) (SFDGUID-001-R0, July 19, 2017).

4.0 XRF RESULTS

After the soil samples were dried and bagged, the samples were analyzed using the XRF. The results identified varied lead concentrations ranging from 39 to 11,409 ppm; all results are provided in Table 1. In the interest of improving the quality of samples close to the guidance value of 400 parts per million (ppm), samples that identified lead results within 280-399 ppm range were sieved through a 2-millimeter, a 250-micron, and a 150-micron sieves, then XRF analyzed again. Only two samples, X2 and Z2, yielded a pre-sieve lead result between 280-400 ppm.

Sample results were highly variable due to the presence and/or absence of slag encountered at various locations and depths across the site. Although lead concentrations were variable, some patterns were observed. Surficial and shallow (2-foot) locations A, B, D, E, and X identified high concentrations of lead ranging from 568 to 2,947 ppm. Locations along the northern (A, B, C) and eastern edge (F) yielded high concentrations of lead at a depth of 8 feet, ranging from 1,185 to 11,409 ppm. Figure 1 illustrates and Table 1 lists the complete lead concentration results. A photographic log of the trenched sample locations follows the figure and table.



Legend

Sampling Location



Staging Area Site Boundary

Lead concentrations are presented in parts per million (ppm)

*Note: The excavator encountered concrete debris at 2 ft in depth at the Y location and was unable to dig further





Westside Lead Atlanta **Fulton County** Georgia TDD NO. OT-02-010 Staging Area Lead Results 441 Vine St. NW



United States Environmental Protection Agency



Table 1
Vine St. Staging Area Lead Results

| | | SAMPLE | | | PS XRF Lead | S3 XRF Lead | Highest |
|---|-----------|----------------------------------|-------------|------------------------------|-------------|-------------|-------------|
| Address | SAMPLE ID | DATE & TIME | LATITUDE | LONGITUDE | Results | Result | Lead Result |
| Vine St Staging Area | A0 | 11/6/2019 1215 | 33.76670349 | -84.40747017 | 1003 | 110000 | 1,003 |
| Vine St Staging Area | A2 | 11/1/2019 1600 | | -84.40747017 | 662 | | 662 |
| Vine St Staging Area | A4 | 11/1/2019 1601 | | -84.40747017 | 48 | | 48 |
| Vine St Staging Area | A6 | 11/1/2019 1602 | | -84.40747017 | 230 | | 230 |
| Vine St Staging Area | A8 | 11/1/2019 1603 | | -84.40747017 | 11,409 | | 11,409 |
| Vine St Staging Area | В0 | 11/6/2019 1210 | 33.76669894 | -84.40725371 | 1769 | | 1,769 |
| Vine St Staging Area | B2 | 11/1/2019 1604 | 33.76669894 | -84.40725371 | 568 | | 568 |
| Vine St Staging Area | B4 | 11/1/2019 1605 | | -84.40725371 | 3709 | | 3,709 |
| Vine St Staging Area | В6 | 11/1/2019 1606 | 33.76669894 | -84.40725371 | 5087 | | 5,087 |
| Vine St Staging Area | В8 | 11/1/2019 1607 | 33.76669894 | -84.40725371 | 8909 | | 8,909 |
| Vine St Staging Area | C0 | 11/6/2019 1145 | 33.76659979 | -84.40688703 | 119 | | 119 |
| Vine St Staging Area | C2 | 11/1/2019 1608 | 33.76659979 | -84.40688703 | 136 | | 136 |
| Vine St Staging Area | C4 | 11/1/2019 1609 | 33.76659979 | -84.40688703 | 132 | | 132 |
| Vine St Staging Area | C6 | 11/1/2019 1610 | 33.76659979 | -84.40688703 | 2361 | | 2,361 |
| Vine St Staging Area | C8 | 11/1/2019 1611 | 33.76659979 | -84.40688703 | 2694 | | 2,694 |
| Vine St Staging Area | D0 | 11/6/2019 1205 | 33.7649632 | -84.40760592 | 948 | | 948 |
| Vine St Staging Area | D2 | 11/1/2019 1612 | 33.7649632 | -84.40760592 | 2947 | | 2,947 |
| Vine St Staging Area | D4 | 11/1/2019 1613 | 33.7649632 | -84.40760592 | 2669 | | 2,669 |
| Vine St Staging Area | D6 | 11/1/2019 1614 | 33.7649632 | -84.40760592 | 1536 | | 1,536 |
| Vine St Staging Area | D8 | 11/1/2019 1615 | 33.7649632 | -84.40760592 | 85 | | 85 |
| Vine St Staging Area | E0 | 11/6/2019 1205 | 33.76645549 | -84.40726435 | 1487 | | 1,487 |
| Vine St Staging Area | E2 | 11/1/2019 1616 | | -84.40726435 | 749 | | 749 |
| Vine St Staging Area | E4 | 11/1/2019 1617 | 33.76645549 | -84.40726435 | 53 | | 53 |
| Vine St Staging Area | E6 | 11/1/2019 1618 | | -84.40726435 | 55 | | 55 |
| Vine St Staging Area | E8 | 11/1/2019 1619 | 33.76645549 | -84.40726435 | 46 | | 46 |
| Vine St Staging Area | F0 | 11/6/2019 1150 | 33.7664585 | -84.40701113 | 127 | | 127 |
| Vine St Staging Area | F2 | 11/1/2019 1620 | 33.7664585 | -84.40701113 | 252 | | 252 |
| Vine St Staging Area | F4 | 11/1/2019 1621 | 33.7664585 | -84.40701113 | 156 | | 156 |
| Vine St Staging Area | F6 | 11/1/2019 1622 | 33.7664585 | -84.40701113 | 1341 | | 1,341 |
| Vine St Staging Area | F8 | 11/1/2019 1623 | 33.7664585 | -84.40701113 | 1185 | | 1,185 |
| Vine St Staging Area | X0 | 11/6/2019 1225 | | -84.40762073 | 617 | 200 | 617 |
| Vine St Staging Area | X2 | 11/1/2019 1624 | | -84.40762073 | 287 | 398 | 398 |
| Vine St Staging Area | X4 X6 | 11/1/2019 1625 11/1/2019 1626 | | -84.40762073 | 104 | | 104 |
| Vine St Staging Area Vine St Staging Area | X8 | 11/1/2019 1626 | | -84.40762073 | 39 53 | | 39 53 |
| | | | | -84.40762073 | | | |
| Vine St Staging Area | Y0 Y2 | 11/6/2019 1200 11/1/2019 1628 | | -84.40719669 | 200 | | 200 |
| Vine St Staging Area Vine St Staging Area | | 11/1/2019 1628 | | -84.40719669 -84.40719669 | 158 | | 158 0 |
| Vine St Staging Area | | 11/1/2019 1629 | | -84.40719669 | | | 0 |
| Vine St Staging Area | Y8 | 11/1/2019 1631 | | -84.40719669 | | | 0 |
| Vine St Staging Area | ZO | 11/6/2019 1155 | | -84.40693739 | 138 | | 138 |
| Vine St Staging Area | Z2 Z2 | 11/1/2019 1632 | | -84.40693739 | 328 | 170 | 328 |
| Vine St Staging Area | | 11/1/2019 1633 | | -84.40693739 | 256 | 1/0 | 256 |
| Vine St Staging Area | | 11/1/2019 1634 | | -84.40693739 | 107 | | 107 |
| Vine St Staging Area | Z8 | 11/1/2019 1635 | | -84.40693739 | 108 | | 108 |
| DC Dro sieved /samn | | | 32 0002000 | 3 10033733 | | | -00 |

PS - Pre sieved (sample not sieved)

S3 - Sieve 3 / sample sieved down to 150 micron particle size

Red results exceed the current 400 ppm cleanup level

Bold results in **PS column** fall into the Sieve Protocol (280-400 ppm)

Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: September 11, 2019 Photographer: G. Kowalski

Official Photograph No. 1: View of property facing east



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: September 11, 2019 Photographer: G. Kowalski

Official Photograph No. 2: View of property facing west. Note the steep slope to the south (left), and the dropoff in elevation in the center



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 OSC: Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 3: View of the trench/depth horizons at location A



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 4: View of excavated soil from

location A



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 5:

View of 2' soil sample from

location A



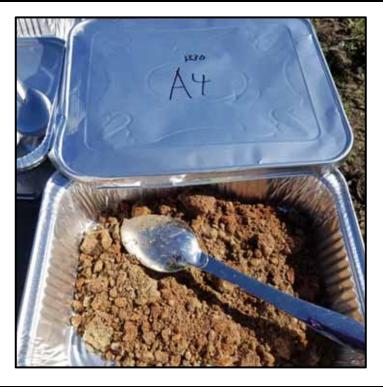
Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 6: View of soil sample from 4'

from location A



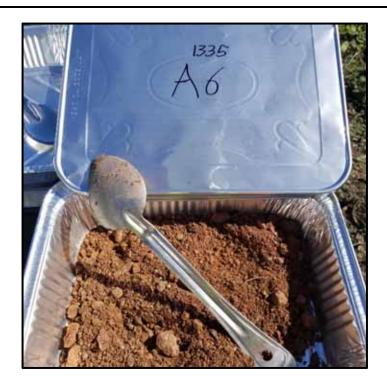
Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 7: View of soil sample from 6'

depth at location A



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 8: View of property 8' soil sample from location A



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 OSC: Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 9: View of excavator bucket sample from for location B



Site: Westside Lead

Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 10: View of excavated soil for

location B



Site: Westside Lead

Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW **Date:** November 1st, 2019 **Photographer:** Greg

Kowalski

Official Photograph No. 11:

View of excavated soil of

location B



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW **Date:** November 1st, 2019 **Photographer:** Greg

Kowalski

Official Photograph No. 12:

View of trench/depth horizons at location B



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 13:

View of 2' soil sample from

location B



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 **Photographer:** G. Kowalski

Official Photograph No. 14: View of 4' soil sample from

location B



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW **Date:** November 1, 2019 **Photographer:** G. Kowalski

Official Photograph No. 15:

View of 6' soil sample from

location B



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 16: View of 8' soil sample from

location B



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 17:

View excavation pile from

location C



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 18:

View of 2' soil sample from

location C



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW **Date:** November 1, 2019 **Photographer:** G. Kowalski

Official Photograph No. 19:

View of 4' soil sample from

location C



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 20: View of 6' soil sample from

location C



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 21:

View of 8' soil sample from

location C



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 22: View of trench/depth

horizons at location D



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 23: View of excavated soil for

location D



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 24: View of 2' soil sample from

location D



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 25: View of 4' soil sample from

location D



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 26: View of 6' soil sample from

location D



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 27:

View of 8' soil sample from

location D



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 28:

View of trench/depth horizons at location E



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 29: View of 2' soil sample from

location E



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 30: View of 4' soil sample from

location E



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 31:

View of 6' soil sample from

location E



Site: Westside Lead

Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW **Date:** November 1, 2019 **Photographer:** G. Kowalski

Official Photograph No. 32:

View of 8' soil sample from

location E



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 33: View of initial excavation of

location F



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 34: View of excavated soil for

location F



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 35: View of 2' soil sample from

location F



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 36: View of 4' soil sample from

location F



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 37: View of 6' soil sample from

location F



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 38: View of 8' soil sample from

location F



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 39: View of trench/depth horizons at location X



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 40: View of excavated soil from

location X



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 41:

View of 2 feet excavated at location Y



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 42: View of excavated soil from

location Y



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW **Date:** November 1, 2019 **Photographer:** G. Kowalski

Official Photograph No. 43: View of 2' soil sample from

location Y



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 44:

View of trench/depth horizons at location Z



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 **Photographer:** G. Kowalski

Official Photograph No. 45: View of excavated soil for

location Z



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 46: View of property 4' soil

sample from location Z



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW **Date:** November 1, 2019 **Photographer:** G. Kowalski

Official Photograph No. 47:

View of 6' soil sample from

location Z



Site: Westside Lead Contract: No. EP-S4-15-01

TDD: OT-02-010 **OSC:** Chuck Berry

Location: 441 Vine St. NW Date: November 1, 2019 Photographer: G. Kowalski

Official Photograph No. 48: View of 8' soil sample from

location Z

